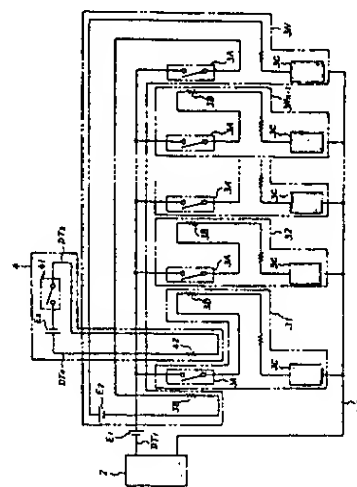


**(54) MONITORING SYSTEM FOR CABLE TEMPERATURE**

- (11) 1-254824 (A) (43) 11.10.1989 (19) JP  
 (21) Appl. No. 63-83896 (22) 5.4.1988  
 (71) SHOWA ELECTRIC WIRE & CABLE CO LTD  
 (72) NOBUHIRO MITSUDOU  
 (51) Int. Cl. G01K13/00, G01K1/02//H02H5/04

**PURPOSE:** To miniaturize a temp. monitoring system by respectively providing a control part controlling the operation state of the operation instruction part of an adjacent other cable surface temp. measuring mechanism on each cable surface temp. measuring mechanism.

**CONSTITUTION:** When a switch part 41 is turned ON, the bimetal switch 3A of a cable surface temp. measuring mechanism 31 is heated by a heater 42, becomes ON when it becomes at more than an operation boundary temp.  $S^{\circ}\text{C}$  after  $t_A$  sec and the temp. measurement of a 1st measuring place is started by the function of a surface temp. measuring part 3C. On the other hand, the switch 3A of a cable surface temp. measuring mechanism 32 becomes ON after  $t_A + T_C$  sec, after operation of a cable temp. monitoring system by the operation of the control part of the mechanism 32, becomes in ON state for  $t_B$  sec and the temp. measurement of a 2nd measuring place is started. The temp. of each measuring place is thereafter measured with each cable surface temp. measuring mechanism 33~3N executing ON/OFF operations in order similarly. Consequently the simultaneous operation of the mechanisms 31~3N is evaded and the sequential operation can be executed in time series by adequately setting the temp. rise and fall times of each heater 3B.



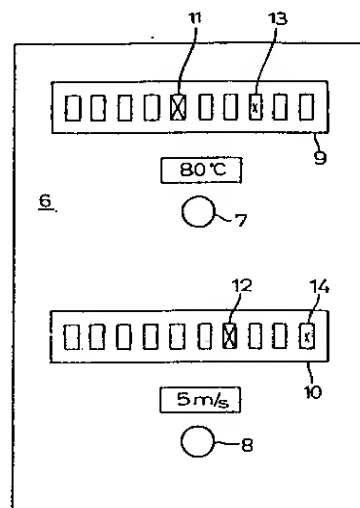
2: temp. measuring instrument

**(54) TORQUE MEASURING INSTRUMENT**

- (11) 1-254826 (A) (43) 11.10.1989 (19) JP  
 (21) Appl. No. 63-83508 (22) 5.4.1988  
 (71) ONO SOKKI CO LTD (72) HIROYUKI WAKIWAKA(1)  
 (51) Int. Cl. G01L3/10

**PURPOSE:** To detect a torque even during the rest of a shaft by constituting the generation means of an AC output by the detection head consisting of four coil bodies opposed to an uneven body respectively and its signal conversion part.

**CONSTITUTION:** Spur wheels 1, 2 are fixed at a gap onto the shaft 3 transmitting a torque and detection heads 10, 20 are fixed at the position opposed to the wheels 1, 2. 1st~4th coil bodies  $L_1 \sim L_4$  of the head 10 is composed of the rectangular coil formed on a flexible printed circuit board, its meandering pitch is the same as the tooth pitch of the wheel 1 and both are arranged by sliding  $1/4$  each of the tooth pitch. The head 20 is also made similarly. The sine wave like exciting signal of  $90^{\circ}$  phase difference is fed to each coil body of the heads 10, 20 now, the sum of the outputs corresponding to its impedance is taken off at a signal converting part each head 10, 20 respectively and its two output phase difference is operated by a phase difference arithmetic part. The torque can thus be detected even under resting of a shaft.



7: temp. threshold value, 8: flow threshold value

**(54) PRESSURE SENSING PLATE FOR DETECTING UNEVEN IMAGE PRESSURE DISTRIBUTION**

- (11) 1-254827 (A) (43) 11.10.1989 (19) JP  
 (21) Appl. No. 63-82228 (22) 5.4.1988  
 (71) ENITSUKUSU K.K. (72) TERUHIKO TAMORI  
 (51) Int. Cl. G01L5/00

**PURPOSE:** To accurately detect a fine uneven surface pressure distribution by varying physical properties in the hole of a pressure sensing sheet with a force applied to the pressure sensing sheet and varying a current, etc., detected through one group of electrodes of an electrode base.

**CONSTITUTION:** The pressure sensing plate is constituted by sticking the pressure sensing sheet 1a, pressure sensing sheet 1b, and electrode base 1c. For example, when a fingerprint is detected, the finger tip is pressed lightly against the pressure sensing plate and projections of the sheet 1a are pressed by projections of the fingerprint. For example, when the projections P of the fingerprint are positioned on the sheet 1a as shown by a chain line, the projections 11a~11c are pressed down strongly, and consequently pressure sensing conductive materials 22a~22c of the sheet 1b are pressed to obtain conductivity. Then X electrodes 31a~31c and Y electrodes 32a~32c are made conductive and

